DAVID Y. IGE GOVERNOR OF HAWAII





STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621 HONOLULU, HAWAII 96809

Testimony of SUZANNE D. CASE Chairperson

Before the House Committees on OCEAN, MARINE RESOURCES, & HAWAIIAN AFFAIRS and WATER & LAND

Wednesday, March 23, 2016 10:30 AM State Capitol, Conference Room 325

In consideration of
HOUSE CONCURRENT RESOLUTION 181
AUTHORIZING THE ISSUANCE OF A TERM, NON-EXCLUSIVE
EASEMENT COVERING A PORTION OF STATE SUBMERGED LANDS AT
PUAMANA, LAHAINA, MAUI, FOR VARIOUS SEAWALL STRUCTURES, A
CONCRETE GROIN, AND REVETMENT FOOTINGS OF A HISTORICAL
SWIMMING POOL

House Concurrent Resolution 181 requests the authorization to issue a term, non-exclusive easement for an estimated 5,242 square feet, more or less, located on state submerged lands identified as tax map key (2) 4-6-028: seaward of 001, at Puamana, Lahaina, Maui, for various seawall structures, a concrete groin and revetment footings of a historic swimming pool, pursuant to Section 171-53, Hawaii Revised Statutes (HRS). **The Department of Land and Natural Resources (Department) supports this concurrent resolution.**

The current owner of the abutting landward property, the Puamana Community Association (PCA) is currently working with the Department to resolve the encroachments. The encroachment was identified on state lands located seaward of the shoreline and such area should be considered as submerged lands. As required by Section 171-53, HRS, the Board of Land and Natural Resources (Board) may lease submerged lands "with the prior approval of the Governor and the prior authorization of the Legislature by concurrent resolution". As noted in the resolution, the PCA has already obtained an easement for the various encroachments. However, after the execution of the easement, as a result of a site inspection conducted pursuant to a certified shoreline application, the

SUZANNE D. CASE CHAIRPERSON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA

JEFFREY T. PEARSON, P.E. DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE BLAND RESERVE COMMISSION
LAND
STATE PARKS

shoreline was located further landward than previously identified, increasing the size of the encroachment and necessitating an amendment of the easement area.¹

The Department notes that the shoreline location currently used to determine the easement area was identified in 2014. If the PCA desires a certified shoreline, and the shoreline location is determined to be further landward, the easement may require further revision to account for the increased area. The easement, including its terms and conditions, are subject to approval by the Board. The grantee shall pay the State the fair market value of the easement as consideration for the use of public lands. The amount of consideration shall be determined by an independent appraisal.

Thank you for your consideration of this testimony.

¹ The amended easement expanding the easement area will require Land Board approval which the parties intend to pursue once the new metes and bounds description and maps are approved by the State Surveyor.

Puamana Community Association Carl Verley, President 34 Puailima Place Lahaina, Maui, Hawaii 96761 (808)661-3424 carl@puamana.us

BEFORE THE

COMMITTEE ON OCEAN, MARINE RESOURCES, & HAWAIIAN AFFAIRS & COMMITTEE ON WATER & LAND

OF THE STATE OF HAWAI'I

IN THE MATTER OF) HOUSE CONCURRENT RESOLUTION) NO. HCR181
Authorization for the issuance of a non-exclusive easement covering a portion of State submerged lands at Puamana, Lahaina, Maui, for various seawall structures, a concrete groin, and revetment footings of a historic swimming pool.) TESTIMONY IN SUPPORT OF HCR181;) EXHIBITS "A" – "C")

TESTIMONY IN SUPPORT OF HCR 181

PUAMANA COMMUNITY ASSOCIATION ("Puamana") and CARL VERLEY, President of Puamana, an individual and a member of the Puamana Community Association and as interested persons provide the following testimony in support of HCR181 to the Committee on Ocean, Marine Resources, & Hawaiian Affairs and the Committee on Water & Land.

1. <u>IDENTIFICATION AND INTEREST</u>

PUAMANA COMMUNITY ASSOCIATION is a Hawaii non-profit, Public Unit Development formed to act as a community association, whose members consist of 230 family dwellings on 30 acres of land. Puamana owns land located at 34 Puailima Place, Lahaina, Hawaii, further identified by tax map key: (2) 4-6-028:001. Transient vacation rentals are permitted at Puamana resulting in a steady stream of tourists visiting the property and using the facilities there.

CARL VERLEY ("Verley") is the President of the Association and is also an owner in Puamana.

2. TESTIMONY

Seawall structures, built in the 1930's, follow along the shoreline and provide stability and necessary coastal protection for the north part of the property. In addition, a concrete groin and revetment footings represent part of a historic swimming pool that was also built in the 1930's as a part of a former planation manager's residence. It has been determined that portions of the seawall structures, the concrete groin and revetment footings of the historic swimming pool encumber a total of 1,895 square feet of state submerged land. Furthermore, the Office of Conservation and Coastal Lands of the Department of Land and Natural Resources determined that the structures are existing and non-conforming, in that they were constructed prior to October 1964.

Puamana obtained a fully executed grant of non-exclusive easement (GL S-6050), dated March 3, 2014 for a total of five (5) shoreline encroachments (identified as Easements "E-1" through "E-5" in the February 2012 Application for Request for State Lands) for the seawall structures, the concrete groin, and the revetment footings of the historic swimming pool, totaling an area of 1,895 square feet (sq. ft.). However, it was later determined by the DLNR that the easements identified in the March 3, 2014 easement agreement (Easements "E-1" through "E-5") would need to be amended to include additional areas for the seawall and pool structures based on an updated shoreline survey of the property. Easements "E-4" and "E-5" (an area of 423 sq. ft.) in the March 3, 2014 agreement now become Easement "E-3-A" for a total area of 2,899 sq. ft. (an increase of 2,476 sq. ft.). The total combined easement area is now 5,242 sq. ft. including Easement "E-2-A", Easement "E-3-A", and the unchanged Easement "E-1" (see EXHIBIT "A"). The amended easements (E-2-A and E-3-A) are subject to approval of lease terms, easement appraisal and lease payment by the Board of Land and Natural Resources.

Structural engineers' opinions on the conditions of the swimming pool (see EXHIBIT "B") indicate that "based on the advancement of the erosion along the south side of the pool, we now feel it to be imperative that the foundation repair/reinforcement process (see EXHIBIT "C") commenced as soon as possible before damage occurs that might make the continued use of the pool impossible. Further delays of a year or more could produce this result."

For the above reason Puamana requests favorable consideration and recommendation to approve HCR181. This will enable Puamana to work with its surveyor, the State Surveyor and DLNR/BLNR to move forward in an expeditious manner to finalize granting of the amended easements and ultimately a remedy for its deteriorating swimming pool.

DATED: Lahaina, Maui, Hawaii: March 21, 2016

PUAMANA COMMUNITY ASSOCIATION,

CARL VERLEY

Cril a Verley.

President

EXHIBIT "A"



Michael T. Munekiyo PRESIDENT Karlynn K. Fukuda EXECUTIVE VICE PRESIDEN Mark Alexander Roy VICE PRESIDENT Tessa Munekiyo Ng

VICE PRESIDENT

TO:

Reid Siarot, State Land Surveyor

Department of Accounting and General

Services

Land Survey Division

1151 Punchbowl Street, Room 210

Honolulu, Hawai'i 96813

Daniel Ornellas, Maui District Land

Agent

Department of Land and Natural

Resources

55 High Street, Suite 101 Wailuku, Hawai'i 96793

DATE:

March 9, 2016

SUBJECT:

Puamana Community Association's Request to Amend 55-Year Term, Non-Exclusive Easements for Portions of a Seawall and Pool Structure Encroachment Purposes Located at Puamana, Lahaina, Maui, TMK (2) 4-6-028:001 (por.) (Reference No.: GLS-6050)

Enclosed is/are:

Copies	Date	Description
1		Easement Plat Map Showing Easement "E-2-A"
. 1		Metes and Bounds Description of Easement "E-2-A"
1		Easement Plat Map Showing Easement "E-3-A"
1		Metes and Bounds Description of Easement "E-3-A"
Original		(Full-size) Shoreline Survey Map
1 (CD)		Easement Plat Maps of Easement "E-2-A" and Easement "E-3-A"
1 (CD)		(CADD files) Shoreline Survey Map (CADD files)

For your information For necessary action For your review For your files

X

For your use As requested For your signature Returning

REMARKS: The enclosed are provided, as requested, to enable further processing of Puamana Community Association's Request to Amend 55-Year Term, Non-Exclusive Easements for Portions of a Seawall and Pool Structure Encroachment Purposes Located at Puamana, Lahaina, Maui, TMK (2) 4-6-028:001 (por.).

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

Reid Siarot, State Land Surveyor Daniel Ornellas, Maui District Land Agent March 9, 2016 Page 2

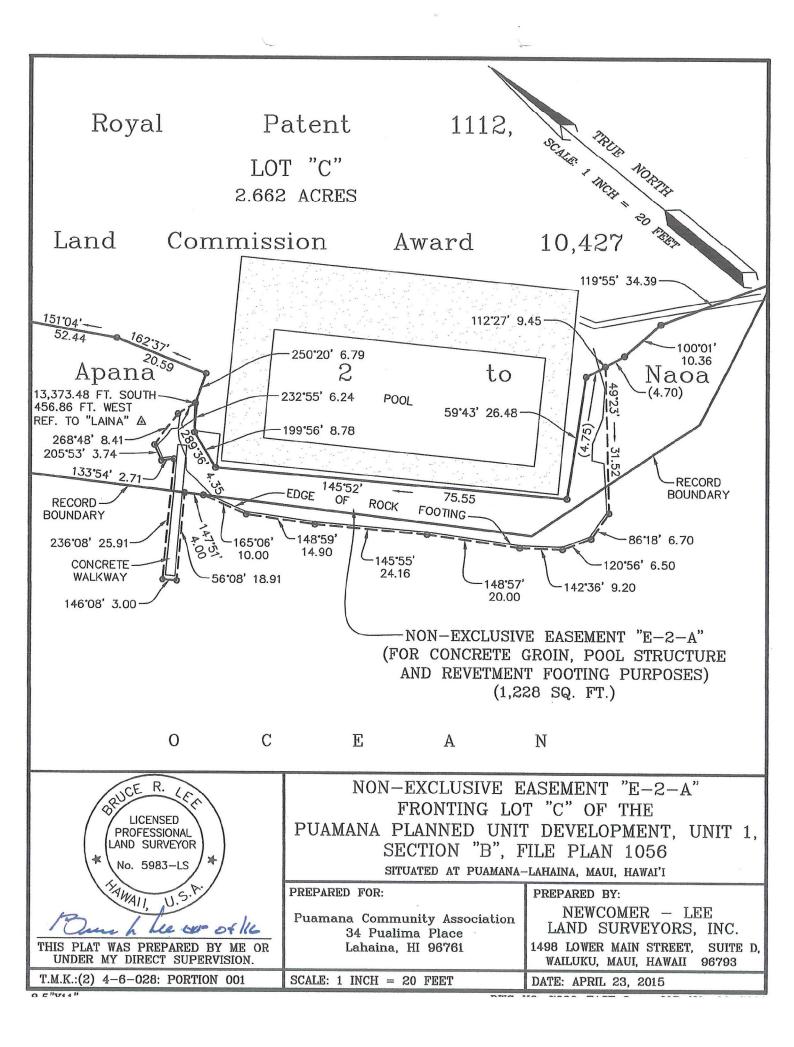
Should you have any ns, please feel free to contact our office at (808) 244-2015.

Senior Associate

EM:yp Copy to:

Bruce Lee, Newcomer – Lee Land Surveyors, Inc. (w/out enclosures)

Carl Verley, Puamana Community Association (w/out enclosures) Dave Medina, Puamana Community Association (w/out enclosures) K\DATA\Puamana\Shoreline\Email\MapstoDAGS.trans.doc



DESCRIPTION

NON-EXCLUSIVE EASEMENT "E-2-A" (FOR CONCRETE GROIN, POOL STRUCTURE AND REVETMENT FOOTING PURPOSES) AFFECTING THE GOVERNMENT LAND FRONTING THE PUAMANA PLANNED UNIT DEVELOPMENT, UNIT 1, SECTION "B", FILE PLAN 1056

All of that certain easement, being Non-Exclusive Easement "E-2-A" for concrete groin, pool structure and revetment footing purposes over, under and across a portion of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainder of Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea and the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, situated at Puamana, Lahaina, Island and County of Maui, State of Hawai'i and being more particularly described as follows:

Beginning at the northeast corner of this easement, on the certified shoreline fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, the coordinates of said point of beginning referred to Government Survey Triangulation Station "LAINA" being:

> 13,373.48 Feet South 456.86 Feet West

feet along the certified shoreline fronting Lot "C" of the

File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission

and running by azimuths measured clockwise from true South:

6.24

1. 52° 55' 00" Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea; feet along the certified shoreline fronting Lot "C" of the 19° 56' 00" 2. Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea; feet along the certified shoreline fronting Lot "C" of the 75.55 3. 325° 52' 00" Puamana Planned Unit Development, Unit 1, Section "B",

Award 10,427, Apana 2 to Naea;

4.	239° 43' 00"	26.48	feet along the certified shoreline fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
5.	292° 27' 00"	4.75	feet along the certified shoreline fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
6.	49° 23' 00"	31.52	feet along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea and the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
7.	86° 18' 00"	6.70	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
8.	120° 56' 00"	6.50	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
9.	142° 36' 00"	9.20	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
10.	148° 57' 00"	20.00	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
11.	145° 55' 00"	24.16	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
12.	148° 59' 00"	14.90	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;

13.	165° 06' 00"	10.00	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
14.	147° 51' 00"	4.00	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
15.	56° 08' 00"	18.91	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
16.	146° 08' 00"	3.00	feet along the remainder of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
17.	236° 08' 00"	25.91	feet along the remainders of the Government Land fronting Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
18.	133° 54' 00"	2.71	feet along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
19.	205° 53' 00"	3.74	feet along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
20.	268° 48' 00"	8.41	feet along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
21.	289° 36′ 00"	4.35	feet along the remainders of Lot "C" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea to the point of beginning and containing an area of 1,228 Square Feet, more or less.

Prepared by:

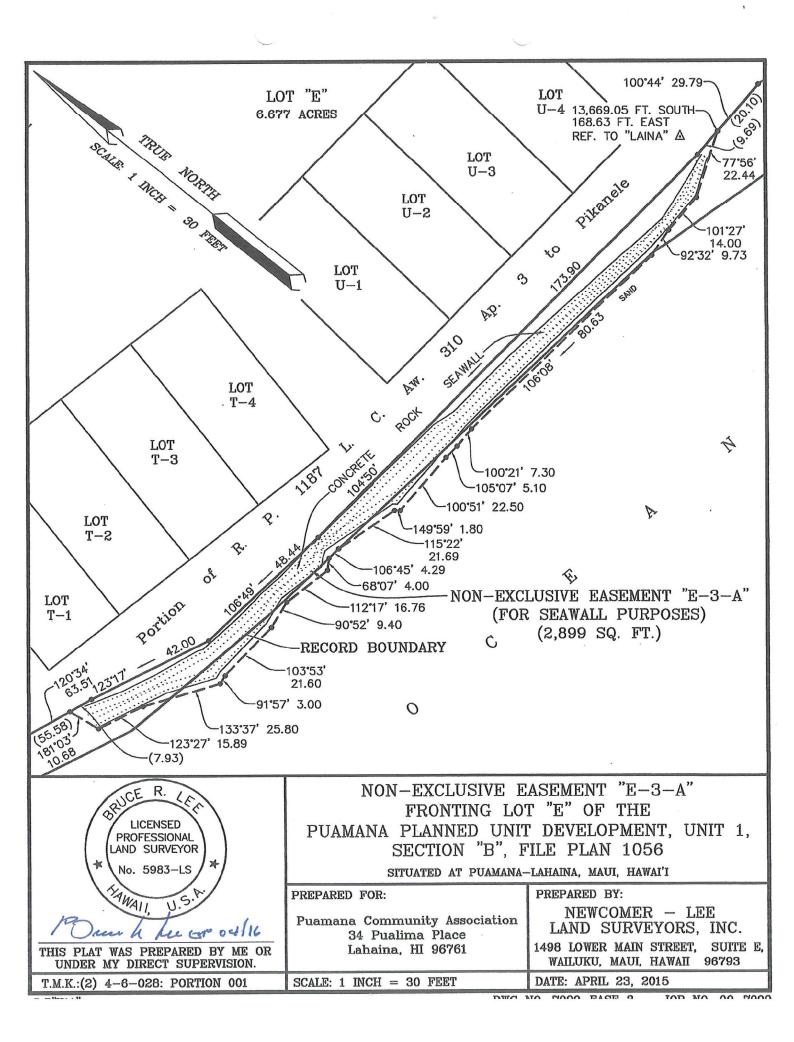
NEWCOMER-LEE LAND SURVEYORS, INC., a Hawai'i Corporation

LICENSED PROFESSIONAL LAND SURVEYOR
No. 5983-LS

4/23/15 PUAMANA SHORELINE File 14-9737 14-9737 Puamana Shoreline Ease E-2-A This description was prepared from a survey on the ground performed by me or under my supervision.

BRUCE R. LEE

Licensed Professional Land Surveyor Certificate No. 5983-LS



DESCRIPTION

NON-EXCLUSIVE EASEMENT "E-3-A" (FOR SEAWALL PURPOSES) AFFECTING THE GOVERNMENT LAND FRONTING THE

PUAMANA PLANNED UNIT DEVELOPMENT, UNIT 1, SECTION "B", FILE PLAN 1056

All of that certain easement, being Non-Exclusive Easement "E-3-A" for seawall purposes over, under and across a portion of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, a portion of Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea and a portion of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, situated at Puamana, Lahaina, Island and County of Maui, State of Hawai'i and being more particularly described as follows:

Beginning at the east corner of this easement, on the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, the coordinates of said point of beginning referred to Government Survey Triangulation Station "LAINA" being:

13,669.05 Feet South 168.63 Feet East

and running by azimuths measured clockwise from true South:

1.	77° 56' 00"	22.44	feet along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;;
2.	101° 27′ 00"	14.00	feet along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;;
3.	92° 32' 00"	9.73	feet along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea and the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;;
4.	106° 08' 00"	80.63	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;

5.	100° 21' 00"	7.30	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
6.	105° 07' 00"	5.10	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
7.	100° 51' 00"	22.50	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
8.	149° 59' 00"	1.80	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
9.	115° 22' 00"	21.69	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
10.	106° 45' 00"	4.29	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
11.	68° 07' 00"	4.00	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
12.	112° 17' 00"	16.76	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
13.	90° 52' 00"	9.40	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
14.	103° 53' 00"	21.60	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;

15	. 91° 57' 00"	3.00	feet along the remainder of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
16.	133° 37' 00"	25.80	feet along the remainders of the Government Land fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
17.	123° 27' 00"	15.89	feet along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
18.	181° 03' 00"	10.68	feet along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea to a point on the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056;
19.	300° 34' 00"	7.93	feet along the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
20.	303° 17' 00"	42.00	feet along the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
21.	286° 49' 00"		feet along the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;

- 22. 284° 50' 00"
- 173.90 feet along certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea;
- 23. 280° 44′ 00"
- 9.69 feet along the certified shoreline fronting Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056, along the remainders of Lot "E" of the Puamana Planned Unit Development, Unit 1, Section "B", File Plan 1056 and Royal Patent 1112, Land Commission Award 10,427, Apana 2 to Naea to the point of beginning and containing an area of 2,899 Square Feet, more or less.

Prepared by:

NEWCOMER-LEE LAND SURVEYORS, INC., a Hawai'i Corporation



REVISED: 2/16/16 PUAMANA SHORELINE File 14-9737 14-9737 Puamana Shoreline Ease E-3-A This description was prepared from a survey on the ground performed by me or under my supervision.

BRUCE R. LEE

Licensed Professional Land Surveyor Certificate No. 5983-LS

EXHIBIT "B"

Walter Vorfeld & Associates Consulting Structural Engineers

CONSOLING STROCTOTAL ENGINEEN

April 14, 2015

Job No. 98032

Puamana Community Association 34 Puailima Place Lahaina, HI 96761

Attn: Carl Verley, Board President

Re: Structural Engineering Review Update

Puamana Pool

Puamana, Maui, Hawaii

Dear Mr. Verley:

Per the request of the Association, this letter is to update the opinions and recommendations set forth in our letter of report dated July 10, 2008.

On Wednesday, April 15, 2015, with yourself, other members of the board and representatives of Munikiya-Hiraga's office, we met at the Puamana property to revisit the issue of the swimming pool on the point. The purpose of the meeting was to re-examine the effect(s) continuing shoreline recession is having on the foundations of the above-grade pool wall structures. This progress or deterioration, as the case maybe, has been under observation by our office since we were first consulted regarding the pool deck and structure in 1998. It was re-examined in 2003, 2008 and 2010 in addition to our most recent visit.

In 2008 the effects of shoreline recession on the pool retaining structures foundation had negatively progressed to a point where we felt it was imperative that efforts be made to obtain the necessary permits to proceed with structural reinforcement of the pool foundations. Their continued undermining by shoreline erosion and shifting of boulders beneath the perimeter of the pool walls had, in our opinion, advanced to the point where eventual loss of foundation support and failure of the pool walls would undoubtedly occur in the future if remedial action was not undertaken. How long before this would/will occur is difficult to predict, but it was/is felt to be imminent. Our letter of report of 2008 stated that obtaining the required permits to perform the repairs would likely be lengthy and for that reason beginning as soon as possible was recommended.

Observations made during our recent visit provide evidence that the undermining of the pool retaining structure's foundations has advanced significantly since last observed in 2010. This is especially true along the south-facing side of the pool adjacent to the mouth of Kau'aula Stream where river boulders have been the primary elements supporting the base of the pool walls. The level of the boulders beneath the wall foundation skirt has dropped appreciably since 2008 and 2010, to the point where the mortar and stone foundation apron is breaking away more extensively. Where the boulder level in 2008 was approximately level with the bottom of the foundation apron, it has now dropped well below it, with caverns opening up under the wall that

were previously not present. Wave energy is now able to directly attack the cut-stone retaining wall buttress elements (similar to Wailuku Bridge stones) of the original 1935 pool construction. The caverns have formed along about 75% of the south pool wall extending down and around the Makai corner. The average level of the boulder array is now approximately 12-18" lower (more in some locations) than it was, and the bases of the original cut-stone buttress are visible where previously they were not. Recent occurrence of high wind events (Flossie in 2013, Iselle, Julio and Ana in 2014) have likely contributed to the observed boulder recession. Images of the south pool wall in 2008 and 2015, included herein, depict the advancement of the erosion beneath the wall foundation apron. Although the shot angles are not identical, match points provided (specific stones in the wall) can be used as points of reference.

Based on the advancement of the erosion along the south side of the pool, we now feel it to be imperative that the foundation repair/reinforcement process commenced as soon as possible before damage occurs that might make the continued use of the pool impossible. Further delays of a year or more could produce this result. The rate of deterioration since our 2008/2010 observations is quite significant, with the extent of foundation undermining becoming critical.

In 2012 our office prepared preliminary drawings for execution of the foundation reinforcement utilizing a process of injecting urethane foam into the soil/sand/rock material directly beneath the pool and its walls. The material recommended has been used successfully in seawall reinforcement efforts in Hawaii, Florida and other coastal locations in the U.S. that are subject to erosion and shoreline recession. The injected foam material can be used to solidify soil/rock material beneath the wall foundations to a depth of 2-3 feet, resulting in the material being made much more resistant to erosion. The foam essentially cements the rock/soil materials into a solid mas to the depth to which is can be injected.

With your permission, we will be talking to one or more contractors familiar with this foam injection process in an effort to better evaluate the procedures we might use and to attempt to estimate what the associated costs might be.

If you have any questions regarding any portion of this letter or require additional information from us please let us know.

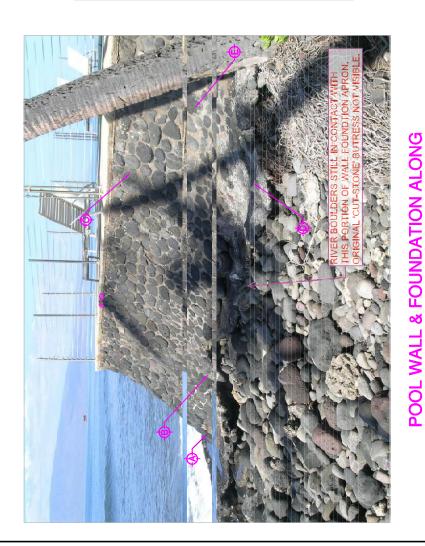
? Vnfeld

WTV/el Encls.

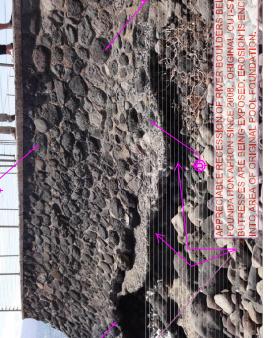
PROFESSIONAL ENGINEER

EXPIRES: 4.30.2016

SOUTH FACE OF POOL WALL & FOUNDATION 2008 VS 2015



WHERE SHOWN THIS DESIGNATES MATCHING POINTS OF ROCK ALONG FACE OF POOL WALL



POOL WALL & FOUNDATION ALONG KA'AULA STREAM (2015)

KA'AULA STREAM (2008)

Walter Vorfeld & Associates

CONSULTING STRUCTURAL ENGINEERS

10 Ulana Street
Makawao, Maui, Hi 96768

RUAMANA HUAMANA, M

OCIATES COMPARATIVE VIEWS
VOINEERS SOUTH FACE OF POOL WALL
PUAMANA JOHNAM HAWAII DATE: 4/12/2015

SHT-2

